

# Chien-Yu Peng 教授 講演のお知らせ

Academia Sinica の Chien-Yu Peng 教授に、以下の内容にて講演をしていただく予定です。

講師: Associate Research Fellow/Professor  
Institute of Statistical Science, Academia Sinica  
<http://staff.stat.sinica.edu.tw/chienyu/>

日時: 2022 年 12 月 16 日(金) 15:30-17:00  
場所: 中央大学 後樂園キャンパス 6号館 7階 6701 室

講演題目: Profile Optimum Planning for Degradation Analysis

## 講演概要:

Degradation tests are widely used to assess the lifetime information of highly reliable products. Before conducting a degradation test, the fundamental issues in regard to decision variables are to determine how many sample sizes are needed, how long samples need to be tested, and how many measurements are taken, particularly in early experiments with limited budgets. By minimizing the approximate variance of the estimated  $q$ -quantile of the product's lifetime distribution with a cost constraint, profile optimum planning (POP) is proposed to provide a systematic solution to these decision variables under mild conditions. Based on the derived theoretical results, the use of flow charts efficiently simplifies complex optimization problems in practical applications. In addition, sensitivity analysis is studied to elucidate the effect of how the uncertainty in POP can be divided and allocated to the experimental costs and model parameters.

連絡先: 中央大学工学部ビジネスデータサイエンス学科 長塚豪己

